

# PATENT ABSTRACTS OF JAPAN

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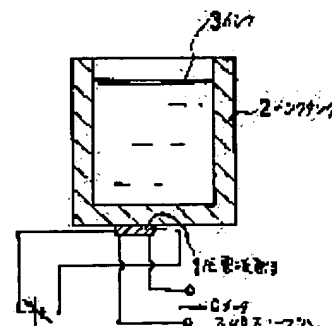
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## (54) INK JET RECORDER

### (57)Abstract:

**PURPOSE:** To detect an ink holding amount in an ink tank by providing holding amount detecting means for detecting an electric signal of a piezoelectric vibrator mounted in the tank or its variation amount of detect the ink holding amount in the tank.

**CONSTITUTION:** A piezoelectric vibrator 1 utilizes so-called secondary piezoelectric effect generated when a strain occurs by applying an electric field to a certain ionic crystal. If an ink tank 2 contains a predetermined quantity of ink 3, they have predetermined natural frequencies. When a voltage is varied to approximate a frequency of the vibrator to the natural frequency of the tank 2, it is resonated. When this resonance is detected by a Q meter, etc., a quantity of the ink 3 can be detected. The natural frequency of each vibration system is varied according to the quantity of the ink 3 in the tank 2. Generally, the less the quantity of the ink 3 is, the higher the natural frequency becomes. When correlation between the resonance of the meter and the ink amount by monitoring a frequency at the time of resonance is obtained, the tank 2 interior can be arbitrarily monitored.



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